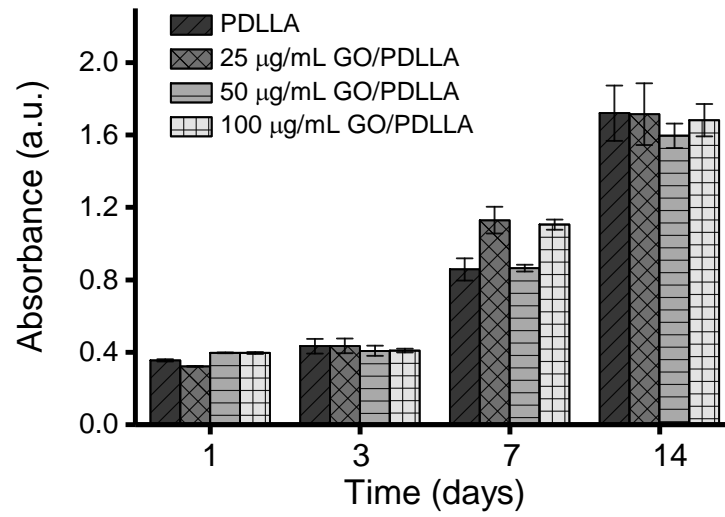
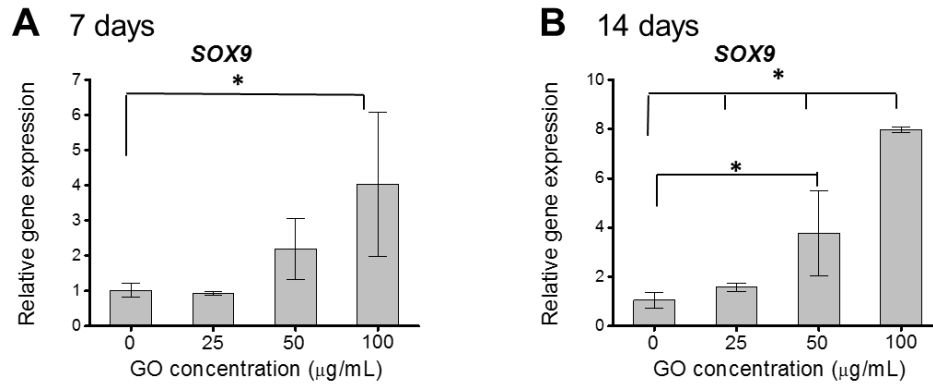


## **Supplementary Information**

Chondroinductive Factor-Free Chondrogenic Differentiation of Human Mesenchymal Stem Cells in  
Graphene Oxide-Incorporated Hydrogels



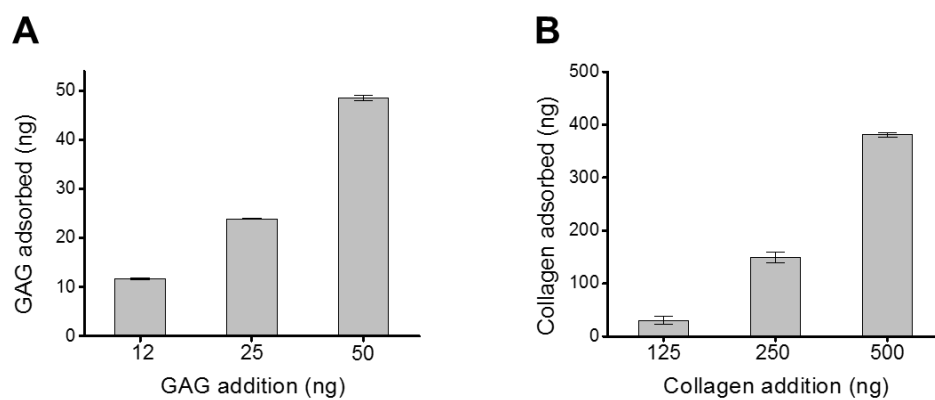
**Figure S1. Cellular metabolism of hBMSCs encapsulated in PDLLA hydrogel with or without the presence of GO.** After culturing in growth medium for 1, 3, 7 and 14 days, results from MTS assay showed no differences in cellular metabolism between control (no GO) and GO-added constructs. Valued are mean  $\pm$  S.D., n=3.



**Figure S2. SOX 9 expression in hBMSCs seeded in hydrogel cultures as a function of GO**

**incorporation.** hBMSC ( $20 \times 10^6$  cells/mL)-laden PDLLA hydrogels containing 0, 25, 50 and 100 µg/mL GO were cultured for (A) 7 days and (B) 14 days, and analyzed for SOX9 by real-time PCR.

Values are mean  $\pm$  S.D. (n=3), expressed relative to the level in the absence of GO. The results showed significant SOX9 up-regulation upon exposure to GO, especially at 100 µg/mL. \*,  $p < 0.05$



**Figure S3. (A) Sulfated GAG and (B) collagen adsorption on GO nanosheets.** The loading capacity of the GO nanosheet is indicated by the increased GAG and collagen adsorbed as a function of increasing amounts added. Values are mean  $\pm$  S.D.